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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,098	07/19/2001	Derek Bernhart	3348.2	5280

22886 7590 12/20/2002

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EXAMINER	
TO, BAOQUOC N	
ART UNIT	**PAPER NUMBER**
2172	

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/682,098	BERNHART ET AL.	
	Examiner	Art Unit	
	Baoquoc N To	2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-44 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-44 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims 1-44 are presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-14, 17-18, 20-24, 29-31, 33-34 and 37-38rejected under 35 U.S.C. 103(a) as being unpatentable over Malik et al. (US. Patent No. 5,832,503) in view of Balaban (US. Patent No. 6,308,170).

Regarding on claim 1, Malik teaches a method comprising step of:

(a) providing one or more identifiers [col. 3, lines 29-33];

(b) specifying one or more attributes for at least one of the identifier [col. 3, lines 33-35];

(c) generating a data template including the identifier [col. 4, lines 43-47]; and

(d) receiving by the data template a value for the identifier in accordance with the one or more attributes [col. 3, lines 36-41]. Malik does not explicitly teaches the value is related to use of a probe array. However, Balaban teaches, "expression level information that is reviewed and/or analyzed by virtue of the present invention need not

be obtained form probes by may originate from any source. If the expression is collect from a probe array, the probe array does not meet any particular size or density" (col. 4, lines 3-8). This teaches the values are collected from the probe array. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Balaban into Malik because by utilizing the probe array values that collect from the conducted experiment would allow the system to fill the data in the experiment template.

Regarding on claim 2, Malik teaches storing the value in a data structure [col. 3, lines 36-38].

Regarding on claim 3, Malik teaches the data structure (template) is included in the database [col. 3, lines 45-47].

Regarding on claims 4, 21 and 30, Malik the identifiers include experiment identifiers (col. 3, lines 26-35) and the data template includes an experiment data template (col. 3, lines 26-27).

Regarding on claims 5, 22 and 31, Malik teaches the subject matter except for the identifiers include sample identifiers (select attributes) (81, fig. 5) and the data template includes a sample data template (select a template) (84, fig. 5).

Regarding on claims 6, 24 and 32, Malik teaches a method generating a data template as in claim 1.

Malik does not explicitly teach the data structure includes an experiment information file.

Balaban teaches the data structure includes an experiment information file (file list) (fig. 5B).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Balaban into Malik because by utilizing the data structure with an experiment information file would allow the user to easily locate the file in the same environment.

Regarding on claim 7, Malik teaches displaying the data template to the first user [col. 6, lines 13-16].

Regarding on claim 8, Malik teaches a method of displaying the data template to the first user as in claim 7.

Malik does not explicitly teach the value is provided by the first user responsive to displaying the data template.

Balaban teaches the value is provided by the first user responsive to displaying the data template (col. 6, lines 13-16).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Malik into Balaban because by allowing the user to input the experiment data into the data template would allow the system to record the experiment.

Regarding on claim 9, Malik teaches the value is provided by the first user in accordance with a first type attribute (col. 6, lines 35-40).

Regarding on claim 10, Malik teaches the first type attribute is a data attribute, time attribute, integer attribute, floating point data attribute, character string attribute, required attribute, or controlled attribute [col. 6, lines 33-40].

Regarding on claim 11, Malik teaches the value is provided by the first user in accordance with a required attribute [col. 6, lines 35-40].

Regarding o claim 12, Malik teaches the required attribute specifies that the value is either required or not required to be received (col. 6, lines 35-40).

Regarding on claim 13, Malik teaches a method of generating the data template with first attribute type as in claim 10.

Malik does not explicitly teach the value is provided by the user in accordance with a controlled attribute (col. 4, lines 30-39).

Balaban teaches the value is provided by the user in accordance with a controlled attribute (col. 4, lines 30-39).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Malik into Balaban because by allowing the user to input the control attribute would allow the experiment conducting precisely as the given attributes.

Regarding on claim 14, Malik teaches a method of generating the data template with control attributes as in claim 13.

Malik does not explicitly teach the controlled attribute specifies that the value is to be one or more of a plurality of user-specified values specified by a second user.

Balaban teaches the controlled attribute specifies that the value is to be one or more of a plurality of user-specified values specified by a second user (col. 5, lines 5-8).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Balaban into Malik because by allow more than one user to do the experiment and input the control attributes would allow the experiment to be conducted by many people.

Regarding on claims 17 and 37, Malik teaches the method generating the data templates by storing the values in the data structure as in the claim 2.

Malik does not explicitly teach storing image data in the data structure, wherein the image data is based, at least in part, on scanning of the probe array.

Balaban teaches storing image data in the data structure, wherein the image data is based, at least in part, on scanning of the probe array (col. 1, lines 46-52).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Balaban into Malik because by storing the image in the data structure would allow the user to visual examining the results taking from the experiment.

Regarding on claims 18 and 38, Malik teaches the method generating the data templates by storing the image data in the data structure as in claim 17.

Malik does not explicitly teach analyzing the image data to generate results data; and storing the results data in the data structure.

Balaban teaches analyzing the image data to generate results data; and storing the results data in the data structure (col. 4, lines 25-28).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Balaban into Malik in order to provide the user the data to analyze and stored in the data structure to provide the system user friendly.

Regarding on claim 19, Malik teaches the method generating the data templates by analyzing the image data and stored in the data structure as in claim 18.

Malik does not explicitly teach tracking the value, the image data, and the result data.

Balaban teaches tracking the value, the image data, and the result data (col. 5, lines 1-8).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Balaban into Malik because the allowing the system to track the value, the image data and the result data as taught in Balaban would allow the user to follow up the experiment in the multi-user system.

Regarding on claim 20, Malik teaches a method comprising the steps of:

(a) receiving from a first user a selection of a first data template having a plurality of identifiers each having one or more attributes [col. 3, lines 26-33];

(b) displaying the first data template to the first user in response to the selection [col. 6, lines 13-16];

(c) receiving from the first user values for one or more of the identifiers of the first data template in accordance with the attributes of the one or more identifiers [col. 3, lines 36-41]; and

(d) saving the values in a data structure [col. 6, lines 27-32]. Malik does not explicitly teach the values are related to use of a probe array. However, Balaban teaches, "expression level information that is reviewed and/or analyzed by virtue of the present invention need not be obtained form probes by may originate from any source. If the expression is collect from a probe array, the probe array does not meet any particular size or density" (col. 4, lines 3-8). This teaches the values are collected from the probe array. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Balaban into Malik because by utilizing the probe array values that collect from the conducted experiment would allow the system to fill the data in the experiment template.

Regarding of claim 23, Malik teaches the list of names is displayed to the first user in a tree structure of a graphical user interface (col. 6, lines 13-16).

Regarding on claim 29, Malik teaches a computer program product comprising:

(a) a template generator that generates a data template including one or more identifiers, each having on or more attributes [col. 3, lines 26-35];

(b) a value receiver that receives values for the identifiers in accordance with their attributes [col. 3, lines 36-45]; and

(c) a data storage manager that stores the values in a data structure [col. 3, lines 35-47]. Malik does not explicitly teach the values are based on one or more experiments on one or more probe arrays. However, Balaban teaches, "expression level information that is reviewed and/or analyzed by virtue of the present invention need not be obtained form probes by may originate from any source. If the expression is collect from a probe array, the probe array does not meet any particular size or density" (col. 4, lines 3-8). This teaches the value is collected from the probe array. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Balaban into Malik because by allow the system to collect and analyze the probe values would allow the biological experiment to be conducted.

Regarding on claim 33, Malik teaches the template generator generates the data template in response to a first user specifying at least one of the one or more identifiers (col. 3, lines 26-35).

Regarding on claim 34, Malik teaches the template generator generates the data template in response to a first user specifying at least one attribute of the one or more identifiers (col. 3, lines 26-35).

3. Claims 39-40 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malik et al. (US. Patent No. 5,832,503) in view of Jordan et al. (US. Patent No. 4,868,785).

Regarding on claim 39, teaches a computer implemented system for managing information of probe array experiments, comprising:

A computer-readable medium (col. 3, line12);

A database (col. 3, line 15);

A data template generator coupled to the computer-readable storage medium [col. 3, lines 26-35]; and

An experiment manager (manager) coupled to the computer-readable storage medium (col. 3, line 12) and the database (col. 3, line 15), wherein the data template generator generates at least one user-defined data template and stores the user-defined data template on the computer-readable storage medium (col. 3, lines 26-35), each user-defined data template defining attributes of a set of experiment identifiers (col. 3, lines 35-40), a data template being selected form the at least one user-defined data template by a user using the experiment manager, experiment identifiers being inputted using the experiment manager, according to the selected data template, the inputted experiment identifiers being stored in the database as an experiment information file (col. 3, lines 42-46). Malik does not explicitly teach the experiment manager. However, Jordan teaches, "a computer system 50, arranged and programmed in accordance with the invention, is connected to an instrumentation

system 52 to provide an Experiment Manager system" (col. 8, lines 35-38 and fig.5). This teaches the Experiment Manager system to manage the collecting data from the data sample. Therefore, it would have been obvious to one ordinary skill in the art at the of the invention was made to modify the teaching of Jordan into Malik because by utilizing the Experiment Manager would allow the system manage collected data for the user when conducting the biological experiment.

Regarding on claim 40, Jordan teaches instrument information is included in the experiment information file (col. 10, lines 55-67).

Regarding on claim 44, Malik teaches a computer implemented system for managing information of probe array experiments, comprising:

A computer-readable storage medium having at least one default data table stored thereon (a model) (col. 3, line 36-38);

A database (col. 3, line 15);

A data template generator coupled to the computer-readable storage medium (col. 3, lines 26-28); and

An experiment manager (manager) coupled to the computer-readable storage medium and the database (col. 3, lines 13-20);

Wherein the data template generator generates at least one user-defined data template and stores the user-defined data template on the computer-readable storage medium (col. 3, lines 26-28), each user-defined data template defining the attributes of a set of experiment identifiers (col. 3, lines 28-35), a data template being selected from the group consisting of the default data table and the user-defined data template by a user using the experiment manager (col. 3, lines 28-33), experiment identifiers being inputted using the experiment manager according to the selected data template, the inputted experiment identifiers being stored in the database as an experiment information file (col. 3, lines 35-38). However, Malik does not explicitly teach experiment manger.

On the other hand, Jordan teaches, "a computer system 50, arranged and programmed in accordance with the invention, is connected to an instrumentation system 52 to provide an Experiment Manager system" (col. 8, lines 35-38 and fig.5). This teaches the Experiment Manager system to manage the collecting data from the data sample. Therefore, it would have been obvious to one ordinary skill in the art at the of the invention was made to modify the teaching of Jordan into Malik because by utilizing the Experiment Manager would allow the system to manage collected data for the user when conducting the biological experiment.

4. Claims 41-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malik et al. (US. Patent No. 5,832,503) in view of Jordan et al. (US. Patent No. 4,868,785) and in view of Balaban (US. Patent No. 6,308,170).

Regarding on claim 41, Both Malik and Chen teaches a data processor (col. 3, line 12), coupled to the database, for acquiring experiment data and storing the experiment data as an experiment data file in the database (col. 3, line 15) except for a data analyzer, connected to the database, for analyzing the experiment data, generating analyzed result files, and storing the analyzed result files in the database; and a file manger for tracking the experiment information file, the experiment data file, and the analyzed results files. However, Balaban teaches, "reviewing and analyzing information relating to the concentration of compounds in a sample as measured by monitoring affinity of the compounds to polymers such as polymer probes" (col. 3, lines 58-61). In addition, Balaban teaches, "for each analysis performed certain data is stored in an expression analysis database" (col. 5, lines 33-34). Further more, Balaban also teaches, "this record includes fields to hold various pieces of information. A result type ID field indicates whether the listed expression results indicate that the gene is present, marginal, absent, or unknown" (col. 5, lines 36-39). This the analysis data is tracked and record as result ID by the file manager. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Balaban into both Jordan and Malik because by using the data analyzer and file manager would allow the system analyze and stored the new results in the file.

Regarding on claim 42, Both Malik and Chen teaches a computer-implemented system for managing information of probe array experiments by the data processor as in claim 41.

Malik and Chen do not explicitly teach experiment data file is an image file.

However, Balaban teaches experiment data file is an image file (col. 1, lines 56-52).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Balaban into both Malik and Chen because by allowing the experiment data file to be an image file would give the system more flexibility to record and stored the experiment data.

Regarding on claim 43, Both Malik and Chen teaches a computer-implemented system for managing information of probe array experiments by the data processor as in claim 41.

Both Malik and Chen do not teach the file manager tracks the experiment information file, the experiment data file, and the analyzed result files according to file names.

Balaban teaches the file manager tracks the experiment information file, the experiment data file, and the analyzed result files according to file names (col. 5, lines 33-52).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Balaban into Malik and Chen because by utilizing the manager would allow the system to manage the data in the system and analyzing the result after the experiment is completed.

5. Claims 15-16 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malik et al. (US. Patent No. 5,832,503) in view of Balaban (US. Patent No. 6,308,170) and further in view of Carlson et al. (US. Patent No. 5,623,592).

Regarding on claims 15 and 28, Both Malik and Balaban does not explicitly teach the first and second users are different users. However, Carlson teaches, "a user may then reload the icon setup at a later date to duplicate the experiment, or to modify for a similar experiment. A user may also send the experiment setup data to others to use as a template for their experiment" (col. 22, lines 30-35). This teaches the first user and second user are different and also perform on the same experiment. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Carlson into both Malik and Balaban because by allow two different users to conduct the same experiment using the same template to guarantee the correction of the results.

Regarding on claims 16 and 36, Both Malik and Balaban teaches the method generating the data template by storing the values in a data structure as in claim 2.

Both Malik and Balaban do not explicitly teach storing instrument information for at least on instrument in the data structure, wherein the instrument is included in an experiment related to the probe array.

Carlson teaches storing instrument information for at least on instrument in the data structure, wherein the instrument is included in an experiment related to the probe array (col. 14, lines 10-24).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Carson into both Malik and Balaban because by storing the instrument information as taught in Carlson would allow the other user to know the experiment is conducted by the particular instrument.

Regarding on claim 35, Both Malik and Balaban teaches a computer program product for generating a data template as in claim 33.

Both Malik and Balaban do not explicitly the data template is selected by a second user.

However, Carlson teaches the data template is selected by a second user (col. 22, lines 30-33).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Carlson into Malik and Balaban because by allowing the second user to select the data template would allow the system to accommodate multi-user system.

Regarding on claim 25, Malik teaches a method generating data template with the data structure includes an experiment information file as in claim 24.

Malik does not explicitly teach the experiment information file is included in a database.

However, Balaban teaches the experiment information file is included in a database (col. 5, lines 33-34).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Malik into Balaban because by allowing the experiment information file to store in the database would allow the user to retrieve at the later time.

Regarding on claim 26, Malik teaches a method generating data template as in claim 20.

Malik does not explicitly teach generating the first data template based, at least in part, on a second user specifying the plurality of identifiers.

However, Carlson teaches generating the first data template based, at least in part, on a second user specifying the plurality of identifiers (col. 22, lines 29-39).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Carlson into Malik because allowing the interaction of more than one user to create the template would allow the experiment to be conducted in multi-user environment.

Regarding on claim 27, Malik teaches the method of generating data template at least in part by the second user specifying the plurality of identifiers as in claim 26.

Malik does not explicitly teach generating the first data template based, at least in part, on a second user specifying the attributes of the plurality of identifiers (col. 22, lines 29-39).

However, Carlson teaches generating the first data template based, at least in part, on a second user specifying the attributes of the plurality of identifiers (col. 22, lines 29-39).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Carlson into Malik because by allowing the second user to specifying the attributes would allow the experiment to be conducted in the multi-user environment.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is (703) 305-1949 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached at (703) 305-4393.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

- (703) 746-7238 [After Final Communication}]
- (703) 746-7239 [Official Communication]
- (703) 746-7240 [Non-Official Communication]

Hand-delivered responses should be brought to:

Crystal Park II
2121 Crystal Drive
Arlington, VA 22202
Fourth Floor (Receptionist).

JEAN M. CORRIELUS
PRIMARY EXAMINER

Baoquoc N. To
November 29, 2002